No. 9500311

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

HybriTech US, a Monsanto Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL D BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF ONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Hamer'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of July in the year of our Lord one thousand nine hundred and ninety-eight.

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

Attest:

Thomas A Salt

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*

~~Agripro Seeds, Inc.~~ HybriTech US, a Monsanto Company

CGM 6/2/98

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER: N90-0666

3. VARIETY NAME: HAMER

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*

6700 Antioch
P.O. Box 2962
Shawnee Mission, Kansas 66201-1362

5. TELEPHONE *(include area code)*: 913-384-4940

6. FAX *(include area code)*: 913-384-0208

FOR OFFICIAL USE ONLY

PVPO NUMBER: 9500311

FILING DATE: Sept. 7, 1995 (AMD 31 Dec 1997)

FEES RECEIVED — FILING AND EXAMINATION FEE: $ 2450.00

DATE: Sept. 7, 1995

CERTIFICATION FEE: $ 300.00

DATE: Dec. 22, 1997

7. GENUS AND SPECIES NAME: Triticum aestivum

8. FAMILY NAME *(Botanical)*: Gramineae

9. CROP KIND NAME *(Common name)*: ~~Hard Red Spring Wheat~~ Wheat, common

RWS 2-19-98

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*: Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION: Delaware

12. DATE OF INCORPORATION: June 1994

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Robert Bruns
806 N. Second Street
P.O. Box 30
Berthoud, Colorado 80513

OR

~~Christine Bruns~~
Berthoud, CO

Mark J. Messmer
HybriTech US
5912 North Meridian
Wichita KS 67204

CGM 6/2/98

14. TELEPHONE *(include area code)*: ~~970-532-3721~~ 316-755-7707

15. FAX *(include area code)*: ~~970-532-2035~~ 316-755-0072

e-mail: Mark.J.Messmer@Monsanto.Com

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)*
g. ☒ Filing and Examination Fee ($2,460), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)?*

☒ YES *(If "yes," answer items 18 and 19 below)* ☐ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☒ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

☐ YES *(If "yes," give names of countries and dates)* ☒ NO

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s))	SIGNATURE OF APPLICANT (Owner(s))
Robert Bruns	
NAME *(Please print or type)*: Robert Bruns	NAME *(Please print or type)*
CAPACITY OR TITLE: General Manager-Wheat Research	DATE: 9/26/95
CAPACITY OR TITLE	DATE

SD-470 (04-95) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden statement)*

Exhibit A.

Origin and Breeding History of Hamer

Hamer originated from the cross of HS85-0902 / N86-0111 which was made at Berthoud, CO in the fall of 1987 and given the cross designation C88-0099. At the time of the cross, HS85-0902 was a line from the AgriPro Spring Wheat breeding program, which itself derived from the cross of HS82-0448 / Angus. HS85-0902 was subsequently released to AgriPro Associate Growers in 1990 under the name Bergen. Bergen's background includes a significant contribution from University of Minnesota breeding lines and the variety Era. Hamer's other parent (N86-0111) also has considerable background from University of Minnesota including the variety Era. (See Pedigree Diagram below).

The cross C88-0099 produced 25 F_1 seeds. The F_1 generation was grown in the greenhouse in Berthoud, CO during the winter of 1987-88, harvested and planted as an F_2 population at Climax, MN in the spring of 1988. Selection criteria at this stage included; short to intermediate height, and resistance to leaf rust, stem rust, and other foliar diseases such as Tan Spot and Septoria Leaf Blight. Ninety-two (92) single head selections were made from this F_2 population at Climax.

Single Seed Descent was used to advance these selections through the F_3 and F_4 generations in the Berthoud greenhouse during the fall and winter of 1988-89. Sixty (60) F_4 derived F_5 headrows from the C88-0099 cross were planted in 1989 at Borup, MN with selection criteria essentially the same as in the F_2 generation although intensity of diseases were much less this year. A total of seventeen (17) rows were selected from C88-0099 at this stage, with each row being harvested and bulked individually. The F_5 selection numbered 4869 was increased as an F_6 plot in a counter season nursery in New Zealand during 1989-1990 and subsequently entered into preliminary yield trials in the spring of 1990 under the line designation 'N90-0666'.

Hamer (N90-0666) was tested in AgriPro nurseries in the Red River Valley from 1990-1994. Hamer has also been tested in the Hard Red Spring Wheat Uniform Regional Nurseries in 1993 and 1994 and was entered in official state tests in North Dakota, South Dakota, and Minnesota during 1994.

In 1992, ninety-six (96) F_8 derived F_9 headrows were grown at Berthoud, CO and two rows were discarded on height. The remaining rows were bulked and used to plant a 1.5 acre initial seed increase in 1993 which produced 5,700 pounds of breeder seed. An additional ninety-two (92) F_{10} head rows were planted in 1993, none of which were discarded, to serve as backup seed stock.

Hamer has been uniform and stable since 1993. Less than 0.5% of the plants were rogued from the initial seed increase field in 1993. Approximately 85% of the rogued variant plants consisted of slightly taller (3 to 8 centimeters) wheat plants. Up to 1% variant plants may be encountered in subsequent generations.

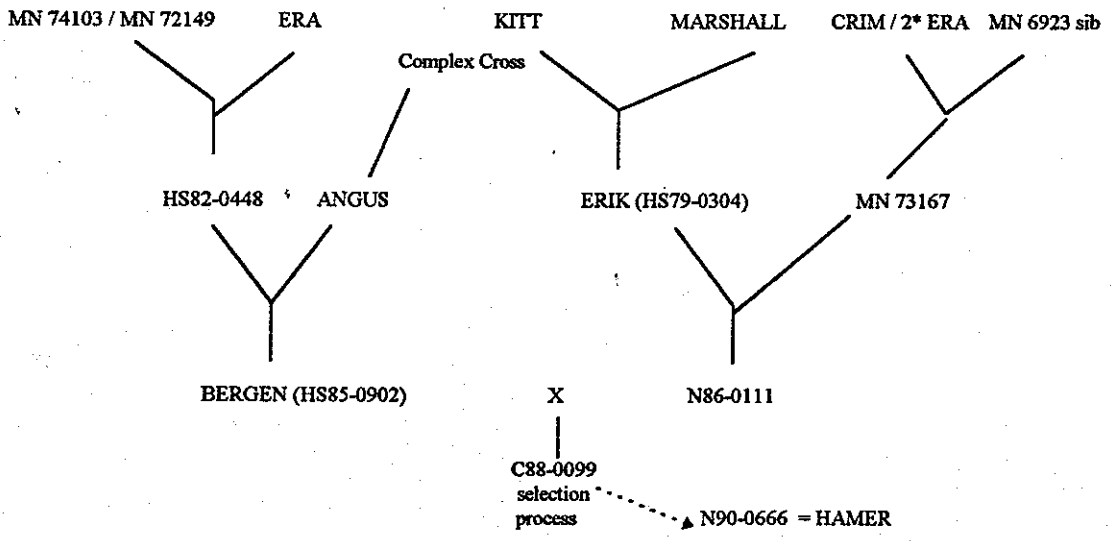

EXHIBIT B.

STATEMENT OF DISTINCTNESS

Hamer is most similar to the hard red spring wheats 'Bergen' and 'Lars'. However, it can be easily distinguished from both of these varieties by the following morphological characteristics:

- Hamer has a long acuminate beak. Bergen has a short acuminate beak, (see statistical data following pages).
- Hamer is a taller height variety then Lars, (see Agripro Hard Red Spring Wheat Trial Summary 1995, page 4.)
- Hamer does not express seedling anthocyanin, (Berthoud, Colorado 1992 thru 1995). Lars does express seedling anthocyanin, (Berthoud, Colorado 1992 thru 1995).
- Hamer has a narrow seed crease width due to its having a rounded seed cheek shape. Lars has a midwide seed crease width due to its having slightly angular cheeks.
- Hamer has a shallow seed crease depth due to its having a rounded seed cheek shape. Lars has a middeep seed crease depth due to its having angular cheeks.

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Agripro Seeds Inc.
Statistical Summary

11/20/95

t-Test: Two-Sample Assuming Equal Variances (1)		
Beak Length	For year:	**1993**
	Hamer	***Bergen***
Mean	7.328	2.412
Variance	7.092933333	0.284433333
Observations	25	25
Pooled Variance	3.688683333	
Hypothesized Mean Difference	0	
df	48	
t Stat	9.049637727	
P(T<=t) one-tail	2.99733E-12	
t Critical one-tail	1.677224191	
P(T<=t) two-tail	5.99466E-12	
t Critical two-tail	2.01063358	

t-Test: Two-Sample Assuming Unequal Variances (2)		
Beak Length	For year:	**1993**
	Hamer	***Bergen***
Mean	7.328	2.412
Variance	7.092933333	0.284433333
Observations	25	25
Hypothesized Mean Difference	0	
df	26	
t Stat	9.049637727	
P(T<=t) one-tail	8.12653E-10	
t Critical one-tail	1.705616341	
P(T<=t) two-tail	1.62531E-09	
t Critical two-tail	2.055530786	

(1) Steel, R.G.D., and J.H. Torrie. 1960. Comparisons Involving Two Sample Means. p. 86-121. In Principles and Proceedures of statistics. McGraw-Hill Book Co. Inc., New York.

(2) Steel, R.G.D., and J.H. Torrie. 1960. Independent Samples and Unequal Variances. p. 106. In Principles and Proceedures of statistics. McGraw-Hill Book Co. Inc., New York.

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Statistical Summary

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Raw Data Summary

Beak Length

1993

number of observations:	Raw data: Hamer	Bergen
1	3.2	1.7
2	4.2	1.9
3	4.2	1.9
4	4.6	1.9
5	5.0	1.9
6	5.4	2.0
7	5.5	2.0
8	5.8	2.0
9	6.5	2.0
10	6.5	2.1
11	6.5	2.1
12	6.7	2.2
13	6.7	2.3
14	7.0	2.3
15	7.5	2.4
16	7.6	2.6
17	7.7	2.6
18	8.6	2.6
19	8.8	2.8
20	9.0	2.9
21	9.0	2.9
22	9.4	3.0
23	10.0	3.0
24	13.2	3.4
25	14.6	3.8

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Agripro Seeds Inc.
Statistical Summary

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t-Test: Two-Sample Assuming Equal Variances (1)		
Beak Length	For year:	**1994**
	Hamer	***Bergen***
Mean	7.116	2.592
Variance	1.965566667	0.149933333
Observations	25	25
Pooled Variance	1.05775	
Hypothesized Mean Difference	0	
df	48	
t Stat	15.55199421	
P(T<=t) one-tail	1.12912E-20	
t Critical one-tail	1.677224191	
P(T<=t) two-tail	2.25824E-20	
t Critical two-tail	2.01063358	

t-Test: Two-Sample Assuming Unequal Variances (2)		
Beak Length	For year:	**1994**
	Hamer	***Bergen***
Mean	7.116	2.592
Variance	1.965566667	0.149933333
Observations	25	25
Hypothesized Mean Difference	0	
df	28	
t Stat	15.55199421	
P(T<=t) one-tail	1.3175E-15	
t Critical one-tail	1.701130259	
P(T<=t) two-tail	2.635E-15	
t Critical two-tail	2.048409442	

(1) Steel, R.G.D., and J.H. Torrie. 1960. Comparisons Involving Two Sample Means. p. 86-121. In Principles and Proceedures of statistics. McGraw-Hill Book Co. Inc., New York.

(2) Steel, R.G.D., and J.H. Torrie. 1960. Independent Samples and Unequal Variances. p. 106. In Principles and Proceedures of statistics. McGraw-Hill Book Co. Inc., New York.

1.000000000000026
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Agripro Seeds Inc.

Statistical Summary

11/20/95

Raw Data Summary — Beak Length — 1994

number of observations:	Raw data: Hamer	Bergen
1	4.5	2.1
2	5.3	2.1
3	5.3	2.2
4	5.8	2.2
5	5.8	2.2
6	5.8	2.3
7	6.2	2.3
8	6.2	2.3
9	6.3	2.4
10	6.3	2.4
11	6.3	2.4
12	7.0	2.5
13	7.3	2.5
14	7.4	2.7
15	7.4	2.7
16	7.5	2.7
17	7.5	2.7
18	7.5	2.7
19	8.3	2.8
20	8.6	2.8
21	8.8	2.9
22	8.8	2.9
23	9.0	2.9
24	9.4	3.5
25	9.6	3.6

Hard Red Spring Wheat Trial Summary 1995.

Ent No.	Variety Code	Fam	Pedigree	WORTH WP	WORTH BP	WORTH DR	WORTH BR	WORTH PR	WORTH Ave.	VISUAL SCAB SCORE PR	VISUAL SCAB SCORE CS	VISUAL SCAB SCORE BP	VISUAL SCAB SCORE GF	VISUAL SCAB SCORE CK	VISUAL SCAB SCORE Ave.	FOLIAR DISEASE BP	FOLIAR DISEASE GF1	FOLIAR DISEASE GF2	FOLIAR DISEASE CS	FOLIAR DISEASE Ave.	LR1 BR	LR2 BR	MATURITY HD BR	MATURITY HD GF	MT GF	MH GP	HT GP	MT BP	MH PR	MH GF	Mat Ave	*HEIGHT HT PR	HT BR	HT Ave	LS BR	ANTHER Ext. AE BR	AE GF	AE Ave
05	BONJA	11	ISBL 0074/MN7357	3	5	6	6	4	4.8	7	7	8	7	7	7.2	3	5	5	3	4.1	1	MR	4	4.5	5	4	5	6	5	4	5	4.8	72	85	79	7	4		4
06	HAMRR	11	BGN/N86 0111	3	3	5	5	4	4.0	4	4	3	3	4	3.6	3	3	3	2	2.8	5	MR	5	5.5	4	5	5	4	5	4	3	4.4	82	95	89	5	5		5
07	LARS	11	BGN/N86 0111	4	3	6	5	3	4.2	4	5	4	4	5	4.4	3	4	4	3	3.4	0	R	1	4.5	6	5	5	6	5	5	5	5.2	72	85	79	4	3		3
15	SBE0437	11		6	4	4	5	5	4.8	4	7	3	7	3	4.8	6	5	3	3	4.3	10	;	2	4.5	7	6	9	8	5	7	8	6.8	88	100	94	6	4		4
21	[illegible]	11	SIB88052/SI32921	3	4	9	8	5	5.8	4	4	4	3	3	3.6	6	4	6	6	5.6	20	;MR	3	4.5	3	4	3	3	3	2	2	3.1	88	105	97	9	2	3	2.5
25	N91-0007	16	ISB2 0418/WIN	3	3	4	5	3	3.6	4	4	4	3	3	3.6	4	4	4	3	3.8	5	MR	4	5.5	6	6	6	5	7	5	7	5.9	70	95	83	4	4	5	4.5
26	N92 0098	11	N86-0805/N86-0003	2	3	5	6	3	3.8	3	4	4	7	4	4.4	3	3	3	3	3.1	0	R	1	7	7	7	7	6	5	4	4	5.9	70	90	80	7	6		6
27	N92 0126	21	N86-0466/2LK	3	3	5	6	4	4.2	5	4	4	4	4	4.2	1	2	1	2	(1.5)	0	R	1	6.5	9	8	6	7	8	8	9	7.7	76	90	83	5	4		4
28	N92 0176	11	N86 0111/N86 0445	3	2	5	7	4	4.2	4	3	3	7	3	4.0	3	4	3	4	3.5	0	R	1	4	5	4	5	4	5	5	6	4.8	70	90	80	7	6		6
29	N92 0248	21	N87-0135/ISB4 0293	5	3	5	6	5	4.8	4	4	4	3	3	3.6	2	3	2	2	2.3	1	MR	4	6.5	8	8	6	6	8	6	7	6.9	72	90	81	5	5		5
30	N92 0334	11	DALEN/ISB5 0476	4	4	6	7	5	5.2	5	5	6	8	4	5.6	2	4	3	3	2.9	1	MR	4	5	7	7	5	7	7	6	6	6.3	82	95	89	6	4		4
31	N92-2031	91	CN CROSS#5	3	3	57	6	3	14.4	2	2	2	4	3	2.6	2	3	4	3	3.0	10	;MR	2	8	7	6	6	7	5	6	6	6.4	88	105	97	7	8		8
35	N93-3026	15	GLE/N87-0002	4	6	4	5	6	5.0	8	6	8	9	7	7.6	2	3	5	3	3.3	5	MR	4	4	5	5	6	4	7	5	5	5.1	80	100	90	5	3		3
44	N93-0087	11	N87-0101/N87-0280	3	4	5	5	3	4.0	4	4	5	6	5	4.8	3	2	3	2	2.6	1	MR	4	6	7	5	7	4	6	6	5	5.8	74	82	78	6	5		5
45	N93-0088	11	N87-0111/N87-0280	3	3	4	3	3	3.2	3	5	3	5	4	4.0	3	3	3	3	2.9	0	R	1	5	6	5	6	6	5	6	5	5.5	78	95	87	6	5		5
46	N93-0119	11	N88 0436/DALEN	2	5	6	6	3	4.4	5	4	5	5	4	4.6	4	3	3	2	3.0	1	MR	4	6	5	5	5	5	4	3	4	4.6	76	92	84	6	5		5
48	N93-0136	19	C84-0457/W87 0049//BGN	5	3	5	5	3	4.2	5	5	4	6	6	5.2	3	3	3	2	2.8	0	R	1	7.5	6	6	6	6	4	7	6	6.1	78	97	88	5	6		6
50	N93-0196	26	RIEDO63 3*/RBL	3	4	4	4	4	3.8	4	4	4	3	3	3.6	3	3	4	4	3.4	15	MR/MS	5	6	4	3	5	4	3	4	4	4.1	80	95	88	4	7		7
52	N93-0211	11	N86-1026/DALEN	3	2	3	4	5	3.4	5	3	3	3	2	3.2	2	4	3	3	3.0	1	MR	4	5	6	6	5	5	7	5	5	5.5	80	90	85	3	4		4
55	N93-0243	11	N87-0508/BGN	4	4	4	5	4	4.2	4	3	4	4	3	3.6	4	3	4	3	3.6	0	R	1	5.5	4	5	4	5	4	4	4	4.4	72	95	84	4	6		6
60	N93-0315	16	N87-10193/KRONA	4	4	2	3	5	3.6	5	4	5	4	5	4.6	3	3	5	5	3.9	0	R	1	2	3	3	2	2	3	3	4	2.8	68	92	80	4	3	3.5	3.25
63	N93-0337	21	N87-0360/N88 0178	2	3	6	6	3	4.0	3	3	4	2	2	2.8	3	3	5	4	3.8	20	MR	4	5	3	4	3	4	3	3	3.5	72	100	86	7	5	5	5
64	N93-0338	21	N87-0187/ISB4 0293	3	4	5	7	4	4.6	4	2	4	3	4	3.4	4	5	4	4	4.3	20	MR	4	6	5	4	6	4	4	5	5	4.9	76	95	86	7	4	5	4.5
66	N93-0383	36	RBS 1534/BT	5	3	4	6	6	4.8	3	4	3	5	3	3.6	3	3	4	5	3.8	1	MR	4	4.5	6	4	4	4	4	5	4	4.4	78	97	88	5	3		3
67	B92-0243	04	LRI/BCHRR	4	4	2	3	2	3.0	3	5	3	3	3	3.5	5	4	5	4	4.6	5	;	2	6	8	5			5	6	7	6.2	76	82	79	1	4		4
74	B92 0536	06/04	RUC'S'/BJY'S'//PIRL'S'	3	4	3	4	3	3.4	3	5	3	2		3.3	2	4	1	3	2.5	10	;MR	3	5	9	8			7	8	8	7.5	70	85	78	2	7		7
75	B92 0537	06/04	RUC'S'/BJY'S'//PIRL'S'	2	3	4	4	3	3.2	3	4	3	2		3.0	4	4	2	3	3.3	15	; MR	3	5	8	6			6	7	9	6.8	65	75	70	5	7		7
76	B92-0540	06/04	KVZ/K4500.L.6.A4//PIRL'S'	2	3	3	4	4	3.2	4	5	3	2		3.5	2	4	2	4	3.0	15	;MR	3	5	8	8			8	8	9	7.7	70	80	75	4	7		7
81	N93-0305	16	RBS 1516/N86 0370	4	2	7	7	4	4.8	2	4	4	3		3.3	5	5	5	4	4.7	0	R	1	5	6	4			4	5	7	5.2	86	90	88	7	4		4
93	N91-0097	36	RIA873/UC693	3	3	6	6	4	4.4	2	4	2	2		2.5	4	3	2	3	3.0	0	R	1	7.5	7	6			5	5	8	6.4	82	100	91	7	6		6
98	Autry 525	04		3	5	4	4	3	3.8	3	4	3	2		3.0	5	4	4	3	4.0	0	R	1	4	5	4			4	4	4	4.2	76	90	83	7	2	4	3
103	N91 0211	11	N88 0098/ERIK	4	4	6	5	4	4.6	3	3	3	1		3.3	3	3	3	2	2.8	1	MR	4	7.5	6	7			5	4	5	5.8	76	105	91	7	8		8
107	N91 0236	15	ISB5 0476/FL265 10A 5//BGN	3	3	2	4	3	3.0	4	4	3	3		3.5	4	3	2	3	2.9	0	R	1	4	7	6			5	8	7	6.2	66	90	78	1	4		4
121	N91 0199	11	N87 0551/N86 0038	5	4	6	7	3	5.0	4	4	3	2		3.3	3	2	3	3	2.8	15	MR/MS	7	8	9	8			6	7	8	7.7	76	105	91	6	8		8
131	N91 0410	36	CPN/BNT	2	2	4	5	2	3.0	4	5	2	4		3.8	2	4	3	3	2.9	0	R	1	6	7	6			6	6	6	6.2	76	90	83	4	4		4
137	SD0025-1	21		3	3	3	6	3	4.0	3	3	5	4		3.8	3	5	5	4	4.2	15	;MR	7	3	3	4			4	3	3	3.2	70	90	80	5	2	4	3
138	SD0039-1	21		3	4	4	5	3	3.8	2	3	5	6		4.0	4	3	3	5	3.8	1	MR	4	2	4	4			3	3	3	3.2	68	82	75	4	3	4	3.5
19	N94-0241	15	ISB5-0476/FL265 10A 5//BGN	2	2			2	2.0	3	4				3.5			3	3	3.0						5			4		4.5	64		64				
116	N94 0383	21	N88 0122/B1186	3	4			3	3.3	3	3				3.0			2	3	2.5						4			4		4.0	84		84				

*Height Data generated from the following locations: PR=Park River, North Dakota
BR=Berthoud, Colorado

FORM APPROVED: OMB NO. 0581-0055

EXHIBIT C
(Wheat)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Agripro Seeds, Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
6700 Antioch
P.O. Box 2962
Shawnee Mission, Kansas 66201-1362

FOR OFFICIAL USE ONLY

PVPO NUMBER 9500311

VARIETY NAME OR TEMPORARY DESIGNATION
'Hamer'

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[1] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____
[2] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM [redacted] planting TO:
[0][5][2] FIRST FLOWERING
[0][5][7] LAST FLOWERING

4. MATURITY (*50% Flowering*):
[---] NO. OF DAYS *EARLIER* THAN ..... [--] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[---] NO. OF DAYS *LATER* THAN ..... [--] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

*Equal to Bergen

5. PLANT HEIGHT (*From soil level to top of head*):
[0][8][0] CM. HIGH
[0][1] CM. TALLER THAN ..... [7]
[---] CM. SHORTER THAN ..... [--] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7=Bergen

6. PLANT COLOR AT BOOTING (*See reverse*):
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][5] NO. OF NODES (*Originating from node above ground*)
[2][2] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][2] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2][5] CM. LEAF LENGTH (*First leaf below flag leaf*):

FORM LPGS-470-6 (7-81) (Edition of 3-79 may be used)

'Hamer' 9500311

FORM GR-470-4 (REVERSE)

11. HEAD:

[3] Density: 1 = LAX 2 = DENSE 3=middense

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[2] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[8.2] CM. LENGTH [1 1] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[---] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[5.5] MM. LENGTH [3.0] MM. WIDTH [3 4] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3=Moderately Susceptible 4=Moderately Resistant

[2] STEM RUST (Races) field races

[2] LEAF RUST (Races) field races

[0] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[0] POWDERY MILDEW

[0] BUNT

[0] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3=Moderately Susceptible 4=Moderately Resistant

[0] SAWFLY

[0] APHID (Spec.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[0] OTHER (Specify) _____

HESSIAN FLY RACES: [0] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Bergen	Seed size	Bergen
Leaf size	Bergen	Seed shape	Bergen
Leaf color	Bergen	Coleoptile elongation	Bergen
Leaf carriage	Bergen	Seedling pigmentation	Bergen

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.T. Briggle and L. P. Reitz. 1963. Classification of Triticum Species and Wheat Varieties Grown in the United States. Technical Bulletin 1278. United States Department of Agriculture.

(b) T.E. Walls. 1965. A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity. Contribution No. 25 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

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EXHIBIT D.

ADDITIONAL BOTANICAL DESCRIPTION OF HAMER

Hamer is a hard red spring wheat bred and developed by Agripro Seeds, Inc. Hamer is a high yielding, tall semidwarf wheat with medium early maturity and moderate straw strength. Hamer provides very good resistance to tan spot, leaf and stem rust, and has shown consistantly good yields even in the presence of severe scab infections. Milling properties and baking characteristics are good.

Juvenile growth habit is semierect. Plant color at boot stage is green. Flag leaf at boot stage is recurved and twisted. Head shape is strap, awned and yellow at maturity. Glumes are glabrous, midlong and midwide with oblique shoulders and acuminate beaks. Seed shape is ovate with rounded cheeks.

Hamer is well adapted to the entire hard red spring wheat region.

EXHIBIT E.

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

The variety for which Plant Variety Protection is hereby sought was developed by Dr. Blake Cooper and Joe Smith employees of Agripro Seeds, Inc. By agreement between employees and Agripro Seeds, Inc., all rights to any invention, discovery, or developement made by the employee while employed by Agripro Seeds, Inc., were assigned to Agripro Seeds, Inc., with no rights of any kind pertaining to 'Hamer' being retained by the employees.

EXHIBIT F.

QUALITY AND AGRONOMIC DATA

AGRIPRO WHEAT
HARD RED SPRING WHEAT
HAMER

YEAR: 1994

YEAR LOC	TEST WT	WHT PROT	FLR PROT		HRD	FLR YLD		ASH	MIXOGRAM PK TIME	MIXOGRAM PK HT	MIXOGRAM TOL		ABS		MIX TIME		LOAF VOL		CRUMB GR	CRUMB TX	CRUMB COL	OVER ALL	CO
	lb/Bu	14%mb	14%mb	R		%	R		min	N.U.	mm	R	%	R	min	R	cc	R	R	R	R	R	
									HAMER														
93 PR	56.9	14.2	12.9	5	78	74.6	3	.540	3.50	5.0	1388	2	66.0	4	3.50	1	1130	4	4	3	3	40	
93 GF	51.3	14.0	12.6	5	72	70.6	4	.516	5.00	4.8	1371	3	66.0	4	5.00	5	1100	4	3	3	2	45	
92 MW	58.0	13.4	12.3	5	109	75.7	3	.509	3.00	5.3	947	5	63.0	3	3.00	1	820	3	4	4	3	46	
91 ST	62.5	15.1	14.2	3	91	75.2	2	.000	3.00	5.8	1134	4	66.0	3	3.00	3	1000	3	4	3	2	39	
90 TM	62.5	13.3	12.4	4	94	75.5	3	.000	3.50	5.0	1383	3	67.0	4	3.50	1	970	5	2	2	2	35	
AVERAGE	**58.2**	**14.0**	**12.9**	**4.4**	**89**	**74.3**	**3.0**	**.522**	**3.60**	**5.2**	**1245**	**3.4**	**65.6**	**3.6**	**3.60**	**2.2**	**1004**	**3.8**	**3.4**	**3.0**	**2.4**	**41**	

RATINGS: 1-2=EXCELLENT 3-4=GOOD 5=ACCEPTABLE 6-7=QUESTIONABLE 8-9=UNACCEPTABLE